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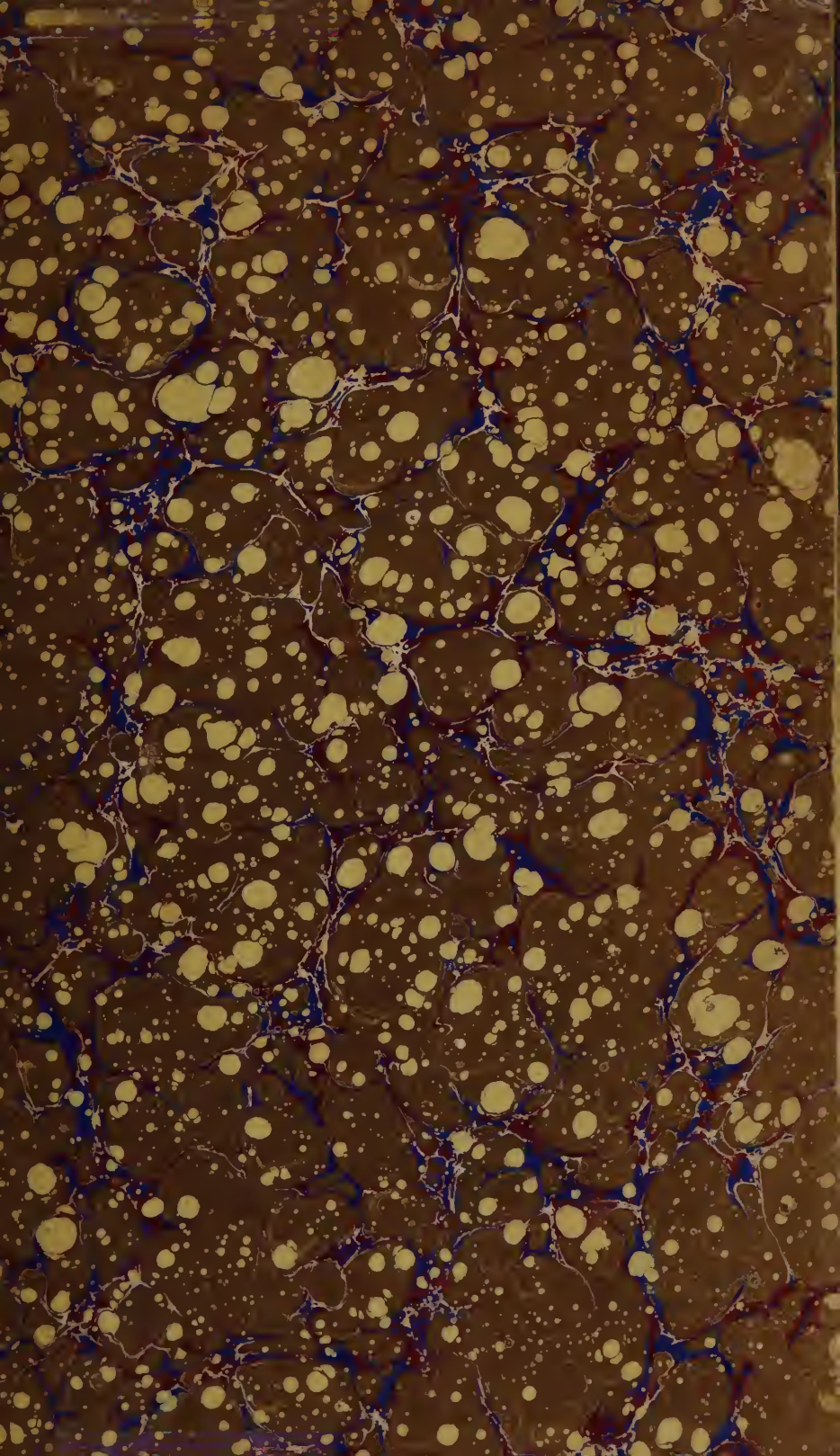
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FEVER:

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ORATION

BEFORE THE

MEDICAL AND CHIRURGICAL FACULTY

OF THE

STATE OF MARYLAND,

ON THE SECOND DAY OF JUNE EIGHTEEN HUNDRED AND SEVEN,

AND PUBLISHED AT THEIR DESIRE.

By Ennalls Martin, M.

Post ignem ætherea domo
Subductum, macies, & nova febrium
Terris incubuit cohors ;
Semot que prius tarda necessitas
Lethi corripuit gradum,
Hoc opus, hic labor est.

Baltimore :

PRINTED BY FRYER AND RIDEN.

1808.

For

Genl Tilghman Esq
from his friends
and sent
The Author

VIEW OF FEVER, &c.

Mr. President, & Gentlemen of the Faculty,

IMPRESSED with due respect for this *Institution*, and conceiving it a duty which you have a right to impose, I come forward with much reluctance and still more diffidence, in obedience to your call, to discharge that duty.*

I am fully aware the subject which I have selected for this occasion, is involved in much obscurity, and surrounded with many difficulties; and that, like every other, where truth has eluded philosophical research, there will be great contrariety of opinion! but I know no other which can be so interesting to the physician, and at the same time have equal claim on his feelings, as well as his constant and diligent investigation.

I claim your patience, and shall esteem it a flattering mark of approbation, should I be so fortunate as to arrest your attention, while I take a concise view of FEVER. Much has been written and said on this subject; and yet all disagree, more or less, in defining this disease! I therefore trust it will not be deemed presumptuous in me, if I differ in some respect from the most eminent and learned of the profession.

I define fever "a morbid action of the heart and arteries; preceded by a chill or lassitude of the body, which is generally succeeded by an increase of heat, attended with a general, or partial interruption of its functions; originating from noxious matters floating in the atmosphere, and applied to the bodies of men."

As to the correctness of this definition, you will have an opportunity of judging: for the present I will just observe, it is the reverse to that of health, as defined by the most approved authors. "Good health," says Doctor Brown, "consists in a pleasant, easy and exact use of all the functions."

That the pulse is generally quick, and that an increase of heat on the skin commonly takes place, will readily be admitted; but on the other hand, it must be conceded by every experienced physician, that these are not infallible criteria by which we are to judge of the presence of fever. Experience and observation would justify me in deciding with the illustrious Dr. Rush, that in some of the most alarming cases of fever, the pulse as to frequency, is far below the standard of health, and the skin preternaturally cold; and that these, particularly the former, are symptoms which augur unfavorably as to its event,

* The author was elected at the previous meeting of the Faculty, agreeably to a standing rule, for the purpose of delivering an 'Oration' at the next meeting in course, notwithstanding he was not then attending, neither had he attended several preceding meetings.

and are pretty sure indications of extreme malignity. The irregular and indistinct manner in which fever sometimes makes its accession, has created some doubt whether every fever is preceded by a chill, or at least some degree of lassitude of the body. If none but patients capable of accurate observation, were subjects of this disease, the difficulty would long since have been solved. So far as I have been the subject of fever, and as far as my observations have been extended, with a fair opportunity of judging, I am disposed to decide in the affirmative. Presuming on this circumstance as well established, and that the whole animal economy is governed by "associate motions," or sympathetic principles, as well as that animal heat is produced by a "decomposition of oxygen air in the blood," (a very plausible doctrine, which it is not incumbent on me at this time to prove) I shall hope to leave little doubt on your minds, or at least to have them favorably impressed, that, though life is sometimes extinguished in the *cold stage of fever*, yet by its "*intervention*" the susceptibility of the lungs for imbibing vital air or oxygen, is so much increased, that it is through this principally, as well as the accumulation of irritability throughout the whole sanguiferous system, that the heart and arteries are roused into morbid action, and the sinking frame rescued from impending dissolution.

That the brain, the stomach, the liver, the skin, &c. are not pleasant, easy, exact, and consequently *interrupted* in their various functions in fever, will appear in the course of this view: but that *the morbid changes in these functions originate from certain "noxious matters floating in the atmosphere, and applied to the bodies of men,"* will require immediate investigation, in as much as the latter will be considered as the remote cause of the former. The remote cause of fever is something foreign from the well-being of animal life, and noxious to the proper exercise of its functions.

I shall not pretend to pry into the arcana of nature. It is enough for us to know that life depends on the agency of external causes, such as air, food, and drink: without the former, life almost instantly ceases, and without the aid of the latter, it can exist only for a short space of time. Hence it has been observed by a celebrated medical philosopher, and perhaps correctly, that "life is a forced state of existence." By these agents the vital principle is excited into action; and they may justly be called stimulants to the animated machine. If life is thus constituted, and health depends on a due application of these stimuli, by which the various functions of the body are kept in unison of action, it follows as a fair induction, that disease will originate from whatever will disorder these functions. But one or more functions of the body may be disordered by intemperance in eating, drinking, &c. and yet fever, properly so called, will not arise as an effect; but whenever the human body is exposed for a certain space of time to a vitiated atmosphere, the functions are disordered, and all the characteristic symptoms of fever take place. It follows therefore, that something floating in the atmosphere is the remote cause of fever.

But does this disorder in the functions originate from direct application of these *noxious matters* to some particular organ, and thus by sympathetic action excite general commotion in the body? or are they applied and received in such a way as to be carried through the whole

system, and thus produce similar effects? Some observations founded on apparent circumstances would seem to favor the former opinion, while facts, verified by more certain experience, would appear to be conclusive in support of the latter doctrine. On a subject enveloped in so much obscurity, we are nevertheless compelled to reason from facts and observation. Dr. Darwin, in treating upon *his sympathetic theory of fever*, relates in support of that doctrine, that he "was some time ago stooping to look which way the water oozed from a morass, as a labourer opened it with a spade, to detect the source of a spring, and inhaled a vapour, which occasioned an instant sense of suffocation. Immediately recoiling," continued he, "I believe I inhaled it but once, yet a few hours afterwards, in the cool of the evening, when I returned home, rather fatigued and hungry, a shivering and cold fit occurred, which was followed by a hot one; and the whole disease began and terminated in about twelve hours, without return. In this case the power of fear, or of imagination, was not concerned, as I neither thought of the bad air of a morass before I perceived it, nor expected a fever fit, 'til it occurred." More light ~~had been~~ thrown upon the subject, had this illustrious character informed us whether or not the labourer was also affected by this vapour. The presumption is, he was not disordered by it at all, though it is probable he had inhaled it for some hours, or perhaps for many days. Whence this difference in effect? I would make this inference; the Labourer enjoyed perfect health before he engaged upon the job, and was not predisposed to morbid action; whereas Dr. Darwin was in a state of morbid excitability before he inhaled the vapour, and therefore it only acted, if it acted at all, with *cold, fatigue and hunger*, as an exciting cause to fever.

might
have
been

In the sickly parts of this State, if a healthy person comes from a healthy part of the country, just before the ravages of an epidemic have ceased, he will enjoy good health during the short remaining period of the season; but not so if he comes a few weeks before its influence is checked. The noxious principles of the atmosphere enter his body by ten thousand times ten thousand inlets, derange every function, produce a morbid change in his whole system, and thus predispose him to feverish action. His whole animal economy undergoes a revolution, and then it is "*cold, hunger and fatigue*" become exciting causes to fever.

The morbid change must be effected by something noxious to animal life, called the *remote cause*! It is clearly and decidedly ascertained that a number of persons may be exposed to a vitiated atmosphere for a certain space of time, and yet out of that number, only a certain proportion shall be apparently disordered by it! To what shall we attribute this difference in effect, unless we suppose this remote cause to have operated a change in the system of some, which the animal economy of the others was capable of resisting; or in other words, unless we suppose a predisposition to fever to be effected in some, which could not be produced in others?

Predisposition* is the first link to the chain where fever begins. It is something that must take place in the human system of econo-

* Predisposition and morbid excitability are considered in the view of fever as terms of the same signification.

my to indispose it to healthy action. It is "that state of the body," says Dr. Brown, "that recedes from health, and approaches to disease in such a manner, as to seem to be still within the boundaries of the former, of which, however, it is only an insidious and deceiving resemblance." It is the effects of the *remote cause*, which, in a way not easily explained, impairs every vital principle, and with concurring causes, disorders all the functions of the body.

From hence it may be inferred, that before general fever can be excited, the excitability must undergo a morbid change, and the body be predisposed to morbid action; when *cold, fatigue, intemperance, and the passions of the mind* may become exciting causes; and also that the remote cause itself may, in that state of the system, be applied to some particular organ, act as an exciting cause to fever, and by "associate motion," disorder every function. Perhaps then, in the elegant language of Dr. Caldwell, this nascent spark of disease may then proceed, "like the embryo ripple in the lake, at first almost a viewless speck, expands by gradual progression from the centre, 'til the whole extent of the glassy surface partakes of the tremulous commotion." It has been surmised by some, that the "stomach is the seat and throne of fever," and that the noxious cause is received into, and has a primary effect on it; but it is more than probable this hypothesis is built upon a very slender foundation, particularly when we reflect on the nature of the passage into that receptacle for food and drink, and the difficulty which "matters floating in the atmosphere," would find in obtaining a constant and ready admittance into it. Supposing the fact otherwise, it is nevertheless a reasonable presumption, while that organ is in the full enjoyment of its functions, that the noxious cause in the form of gas, would most probably unite very readily with its usual contents, and quickly undergo that modification which the digestive powers are so capable of effecting: of course it must in a primary consideration become harmless there, and to the system generally.

After mature and candid reflection, it must appear clearly and obviously that the skin, and those parts which are open to the air in its passage to the lungs, and the lungs themselves are the only organs or parts which can be considered as altogether, and at all times assailable by noxious matters floating in the atmosphere; and that it is by the system of absorbents, they find a constant and ready passage to the blood, and by it to the system generally. From hence I infer, that though "the blood vessels may be, according to Dr. Rush, the seat and throne of all fevers," the blood must be the "vehicle" by which the noxious cause is conveyed to every part of the body. Here then commences the first link to fever: the morbid excitability, and the beginning predisposition. Relinquish this doctrine, and we are reduced to the necessity of admitting, contrary to the most impartial and accurate observation, that the moment the "noxious matters floating in the atmosphere," are applied to any of the organs, such as a vapour from a morass to the lungs, fever must be the consequence with the small aid of "cold, fatigue and hunger," and that by "direct or reverse sympathy."

During the revolutionary war, duty compelled me to attend the sick and dying soldiers of our army in a crowded and confined ward, where I think contagion (so called) was as much accumulated as was possi-

ble. Twice and thrice a day I visited ward NO. 19, in the Brothers' house at Bethlehem. Always upon first entering this ward, I felt, like Dr. Darwin, "an instant sense of suffocation." In the course of some seconds, the lungs accommodated themselves to this new and deadly air, and the "sense of suffocation" went off. In this situation some weeks elapsed before I began to feel a sense of weariness, loss of appetite, and other precursors of approaching fever. Perhaps had I been confined to breathe this poisonous air, it would have produced a morbid change in my system in nearly as many days; but fortunately I enjoyed a pure air in a distant house, except when I was engaged in duty. A lapse of more than nine and twenty years can never efface the truth of this statement from my mind.

To contrast my own case with the illustrious Dr. Darwin's in pursuit of truth, will not be deemed presumptuous, when you are to judge whether fever can be produced by "direct or reverse sympathy," before a morbid cause has produced a morbid change in the body, and thus predispose it to feverish action.

Though "life" may be viewed as "a forced state of existence," the system of animal economy in health must nevertheless be considered as in a constant harmonious circle of action; and like a musical instrument, if every chord is not in perfect unison, harmony ceases, and discord is the consequence. The great difficulty is to determine where and how this discord begins in fever! If the blood is the "vehicle" of the noxious cause, and the beginning of feverish discord; and it be admitted that it is the "life" of the animal, the *primum vivens, et ultimum moriens*, or, according to the great John Hunter, and our learned, ingenious Dr. Caldwell, that it is possessed of a *living principle*, like the solids, many difficulties would quickly vanish; when we might indulge a hope, that the operation of the remote cause may yet be ascertained by future enquiry.

Some "physicians have supposed the remote cause" to consist in certain direct stimulants, but, continues Dr. Cullen, "the supposition" would seem to be inadequate "to account for the phenomena attending the accession of fever!" Others, as he does himself, have supposed it of a debilitating, or sedative quality." The advocates for either doctrine have proceeded with little caution, and great rapidity; assuming the privilege of taking *supposition* for proof, and then very ingeniously, and very learnedly, have left us most profoundly in the dark.

Dr. Darwin, in accounting for a "torpor of the capillaries of the air vessels of the lungs, by great stimulation," makes the mystery still more mysterious, by saying, the organs may become torpid in an instant of time, by the great expenditure of the sensorial power of irritation, as paralysis frequently follows too great an exertion of voluntary power!"

Dr. Cullen, after stating, that the remote causes of fever, human, and marsh effluvia, seem to be of a debilitating, or sedative quality, goes on, and says, "they arise from a putrescent matter. Their production is favoured, and their power increased, by circumstances, which favor putrefaction; and they often prove putrefactive ferments, with respect to the animal fluids. As putrid matter, therefore, is always, with respect to animal bodies, a powerful *sedative*, so it can be hardly doubted, that human, and marsh effluvia, are of the same qua-

lity: and it is confirmed by this, that the debility, which is always induced, seems to be in proportion to other marks that appear, of the power of those causes." What all this amounts to, as proof, is hardly to be conceived. All is mere supposition; and we are left in the dark in search of truth!

When such illustrious characters as Cullen, Darwin, and others, are obliged to take flight into the delusive regions of hypothesis, and to construct systems on little more than the "baseless fabricks" of their own imaginations; it is with extreme diffidence, I venture into the wide field of conjecture. It may be deemed presumption even to hope, that I shall throw a glimmer of light on a subject, involved in so much obscurity.

Supposing, with Dr. Rush, that "the blood vessels are the seat and throne of fever," I consider it as a fair deduction, that the blood is the "vehicle" of its remote cause; but being, by this cause, impaired in its vital energy, it ceases to communicate its accustomed vital action to the system generally, or at least to some parts particularly; or, in other words, the blood, the beginning source of life, being thus interrupted in its important function, the whole system, by "associate motion" is thrown into disorder. Thus commences the morbid excitability, the first link to fever.

But, "to render the doctrine of fever consistent, and complete," waving for the present the arguments in support of its plausibility, I shall suppose a patient in this morbid state of excitability, the blood having lost its vital action in a way, as incomprehensible, as the growth of a blade of grass, or the mystery of Creation itself.

In this situation, the whole animal economy moves heavily along. He feels languid, dull, and dispirited, gradually receding from health, and approximating to disease. Every function begins to be disordered. The heart, and arteries, no longer carry the blood through every part with vital energy. The stomach loaths its food; the digestive powers are impaired, and frequently a constant nausea sickens the whole frame. The secretions are disordered, and the patient is on the very ~~brink~~ *brink* of the cold stage of fever. In this state he might possibly continue for several days, and, perhaps, if removed from the influence of the remote cause, might struggle through this morbid state by the ordinary efforts of nature, unless some exciting cause should be superadded.

But, supposing the patient, under the influence of the remote cause. In ordinary cases, it is rare, though not without exception, that an exciting cause is not in some measure necessary to favour the accession of fever, such as cold, fear, intemperance, &c. The generating powers of animal heat in the blood, being impaired by means of the effects of the remote cause, aided as above, by the exciting cause, he, now, in the language of Dr. Cullen, exhibits signs of great uneasiness, by yawning and stretching. At the same time, the face, and extremities become pale; the features shrink; the bulk of every external part is diminished; and the skin over the whole body appears constricted, as if cold had been applied to it. At the coming on of these symptoms, some coldness of the extremities, though little taken notice of by the patient, may be perceived by another person. At length, the patient himself feels a sensation of cold, commonly first in his back, but, from thence, passing over his whole body; and now, his

sense of cold encreasing, produces a tremor in all his limbs, with frequent successions, or rigors of the whole body. The respiration is quick, and every function of the body is more or less disordered. In this state of exhaustion, which would appear little short of extinction to one unacquainted with such a case, it would seem impossible for the patient to emerge from impending dissolution. So sensibly impressed have the most eminent theorists been, that the powers of life were inadequate to that purpose, that they have indulged their fancies in supposing something imaginary, and incomprehensible to themselves, as well as others! Hence, we find Sthal calling in the aid of his "*anima medica*," and Cullen, with others, the powers of "*reaction*," and the "*vis medicatrix nature*." But, to suppose an Almighty, and beneficent Creator, would constitute man so imperfectly, as to make his life depend on a capricious, or imaginary power, when he saw the evils with which he would be surrounded, and the difficulties with which his existence would have to encounter, would be to arraign the wisdom, and order of his Providence. I must, therefore, suppose, that the animal economy has, within itself, the means of its own preservation in this particular, and critical situation, unless the agents of its existence are withdrawn, or the principles of life destroyed. This source of preservation I shall look for in that part of the general system, where animation begins, combined with a general and remaining excitability; for, I presume, that the lungs, by that sympathetic affection, which pervades the whole body, having become more excitable from an accumulation of irritability, in which the whole system participates, imbibe, with avidity, a larger portion of that "*animating principle*" from the atmosphere, which gives vitality to the blood, and through it, to the whole animal system; and, that by this means, the heart and arteries, as well as the lungs, which had been in a state of "*torpor*," now expand, and beat with encreased force; the blood, in consequence, is hurried through the whole sanguiferous system with great rapidity; the respiration is quickened; the skin is hot and dry; the tongue is generally parched; the brain is confused, and every function is more completely disordered. Now, that very principle, which had excited the torpid heart, and arteries into action, and thus rescued the body from impending dissolution, produces great commotion, and heat is evolved to great extent by the chemical "*decomposition of oxygen air in the blood*;" and it is presumable, that such is the state of the blood at this juncture, that it is disposed to form a union with oxygen with much avidity, by which means an unusual quantity of heat is eliminated, and thus the hot stage of fever is formed.

Having traced fever from its origin to its acme, or exacerbation, it is only necessary to advance a few steps further, and it must intermit, or remit; or death is soon the final result. But such is the established order of the animal economy, impressed by an Almighty hand, that excessive action exhausts the principle, by which it is supported; so, that in fever, unless from a concurrence of causes, so much action has been excited as to destroy the principles of life, that action is exhausted, and the fever intermits, or, at least, remits; of course there cannot be "*such a disease, as that which the schools have called a continant fever*." To complete an entire paroxysm in

the highly descriptive language of Dr. Cullen, a moisture now appears upon the forehead, and, by degrees, becomes a sweat, which gradually extends downwards over the whole body. As this sweat continues to flow, the heat of the body abates, the sweat, after continuing some time, gradually ceases; the body returns to its usual temperature, and most of the functions are restored to their ordinary state. But, experience teaches us, that, the paroxysm of fever, may terminate only in remission, instead of intermission, with a variation of several of the above appearances, from whence it may be inferred, that in the one there is only a partial exhaustion of morbid excitability, and, in the other a complete expenditure of the same principle.

When fever has thus originated from the effects of the remote cause, we are not to conclude, that by withdrawing the body from the sphere of its action, a return of the same symptoms will not take place; on the contrary, such is the constitution of the animal economy, that the system, being once brought into morbid excitability, and excited into morbid action, by the effects of this cause, aided by the exciting cause, its constant application is not necessary to produce a recurrence of fever, at regular and stated periods; though, it must be admitted, upon the authority of calamitous experience, that this circumstance has had, and will continue to have, a very pernicious influence. This circumstance being well ascertained, it will be necessary to look further for an explanation of this fact, and endeavour to investigate how, and by what means, fever returns, or exacerbates, at those regular, and stated periods.

If, during this morbid, and irregular, and frequently "convulsive action" of the heart and arteries, the morbid impression of the *remote cause* should be so far resisted by the animal powers, that the several functions of the body are restored to a harmony of action, the fever passes off, not to return again; as in the case of Dr. Darwin, and thousands of others.

But, on the other hand, when the principle of irritability is so far expended, that the blood, in an exhausted state, ceases to stimulate the heart and arteries into proper action, and the lungs having become "torpid" from an expenditure of the same principle, so little oxygen air is imbibed, and, of course, so little heat evolve by the process of "decomposition," a languor commences, which soon terminates in a coldness of the whole body; or in other words the cold stage again recurs with all its concomitant symptoms. In this state of "torpor" of the lungs, the blood, and the heart and arteries, the principle of irritability accumulates; the lungs again, from that sympathetic influence already mentioned, acquire the power of imbibing a greater quantity of oxygen, or vital air, and a greater energy of action; at the same time the heart and arteries, having become more excitable upon the same principles, are excited into excessive action, and the same routine of symptoms take place as at the increase and declension of the first paroxysm.

Agreeably to the same train of reasoning, the paroxysms will continue to return either at regular, or irregular periods; for they may be varied by becoming shorter or longer, intermitting or remitting, depending on a number of adventitious circumstances, until, by the powers of the animal economy, aided by the efforts of art, the various "functions are restored to their ordinary state" of health.

Before I proceed in this *view*, I deem it of importance to offer some illustrative proof in support of the above doctrine, particularly so far as the "phenomena" of the cold stage of fever may be concerned.— And though some repetition may be used, I shall hope for your indulgence.

That there is a principle in the atmosphere, which communicates life to animated nature, though it is frequently combined with something which proves noxious to human life, there can need no proof or illustration. Without it all animal motion ceases, and we become dead, inanimate matter ! By the constitution of the animal economy, the lungs are formed to receive the "animating principle," and impart it to the blood, which, by this agency, stimulates the heart and arteries into action, and thus commences and is continued the whole circle of animal motions, therefore whatever impedes, interrupts, or diminishes the power of this vital principle, either destroys life altogether, or disorders the harmony of the whole system. In the cold stage of fever, the functions of animal life are impeded, interrupted and nearly exhausted. Can we suppose any thing more reasonably adapted to resist and counteract the noxious cause, than that function, which is the source of life ? It is a truth well established, being familiar to the most common observation, that when any part of the body has been in a state of rest, or "torpor" for a shorter or longer space of time, depending on the peculiar function so affected, the principle of irritability become accumulated, or the part so susceptible of impressions, that an ordinary stimulus will excite more than ordinary action. As for instance, if one hand be put into cold water, it becomes pale, so as to show, that the arterial action is diminished ; but when exposed to the same temperature with the other, the one dipped in cold water glows with heat, and manifests a quickened circulation, while the other is not affected more than ordinarily. So, if the cold bath is applied to the whole body, a glowing heat is produced on the surface, as soon as it comes out, and is exposed to common temperature ; the lungs at the same time, by that sympathy which governs the whole system, experiencing a momentary "torpor," by which circumstance the principle of irritability is accumulated, now regain an extraordinary portion of vital or oxygen air, and thus a greater quantity of heat is evolved by the process of "decomposition" according to the present doctrine of animal heat. The effect of the cold bath are momentary ; but in the cold stage of fever, the effects of the remote cause are more permanent, having seized upon, and interrupted the important office of the blood, as well as other functions of the body. In the one case, there is only an abstraction of heat ; in the other, though cold might have proved the exciting cause to fever, the process of animal heat is interrupted, and of course a mere accumulation of the principle of irritability could not be sufficient without the accession of the "animating principle" of oxygen, which is indispensably necessary to carry on the process of animal heat by "decomposition of oxygen air in the blood."

I will not pretend to say, that the "phenomena" of fever, so far as the cold and hot stages are concerned, can be entirely and satisfactorily explained by the above hypothesis, but I may venture to hazard an opinion, when the regular circle of actions in the animal economy is interrupted by any cause whatever, that unless some "general law"

is admitted according to the supposition of Dr. Cullen, "whereby it happens, that powers, which have a tendency to hurt and destroy the system, often excite such motions as are suited to obviate the effects of the noxious cause," life would be of short duration, seeing that its existence is surrounded by such an host of destructive causes. That the lungs are endowed with this preservative power in health as well as in disease, may be inferred from the following fact, which common bleeders consider as the proper test, by which they are to determine when a sufficient quantity of the vital fluid is taken away. While the blood is flowing from the orifice, if the patient sickens at the stomach, it will almost instantly change its color from a deep purple to a florid red,* and the shades of color will vary in such way as seemingly to depend on the state of the stomach, arising from the quantity drawn off. From hence it would appear, as if the sympathetic connection between the lungs and stomach was such, that the preservative powers of the former are suddenly excited to support the functions of the latter, as well as those of the whole body, by imbibing as suddenly a larger portion of that "animating principle" from the atmosphere, which is so necessary to keep up the action of the heart and arteries, and of course the whole system. In the cold stage of fever therefore, as in this case, the same "general law of the animal economy" may be ~~be~~ *suffer* ~~be~~, and considered as a strong argument in support of ~~the~~ *to look* ~~the~~ pneumatic doctrine, combined with that of *Heat* sympathy.

But admitting the plausibility of this doctrine, so far as the cold and hot stages of fever are concerned, a question of some difficulty arises, and that is, how are we to account for the various topical affections, properly called *inflammation*, which are excited in the progress of general fever? If there is such a "law of the animal economy" as the

* It is presumable in this case, that oxygen acts on the blood not unlike electricity; and as "*animal heat*" is proved by analogy to be "*a gentle combustion*," it may reasonably be concluded, that FEVER is a more violent INFLAMMATION. Vide Philosophy of Medicine. vol. 2.

The wonderful "part" that oxygen, or pure vital air "plays" in animal and vegetable life, particularly in giving color to the blood, and imparting heat to our bodies, is beautifully expressed by Dr. Darwin in his "*Economy of Vegetation*," The goddess of Botany, surrounded by ethereal choirs, is made to address her nymphs in the following elegant and instructive lines.

bulb

"When air's pure essence joins the vital flood,
And with phosphoric acid dyes the blood,
Your Virgin trains the transient heat dispart,
And lead the soft combustion round the heart;
Life's holy lamp with fires successive feed,
From the crown'd forehead to the prostrate weed;
From earth's proud realms to all that swim or sweep
The yielding ether or tumultuous deep.
You swell the ~~lawn~~ beneath the heaving lawn,
Brood the live feed, unfold the bursting spawn;
Nurse with soft lap, and warm with fragrant breath,
The embryo panting in the arms of death;
Youth's vivid eye with living light adorn,
And fire the rising blush of beauty's golden morn."

That the blood will change its colour, as above stated, while flowing from a vein, stands upon higher authority than vulgar observation. I bled, says Mr. John Hunter, a lady whose blood was at first of a dark color, but she fainted, and while she continued in the fit, the color of the blood that came from the vein was of a bright scarlet.

one just mentioned on the authority of Dr. Cullen, as well as common observation, it is not reasonable to suppose that those "powers, which have a tendency to hurt and destroy the system," will always "excite such motions as are suited to obviate the effects of the noxious cause;" but that upon the same sympathetic principles, "motions" may be excited," which have a contrary tendency; particularly as it must be conceded, that all parts of the body are not equally in a state of morbid excitability; and thus a greater morbid action may be excited in particular organs or parts, than generally pervades the whole system. In this case, as supposed by Dr. Darwin and others, more "animal heat" is generated by a "combination or production of new fluids in those organs or parts, in which there is a secretion of new blood-vessels." Thus a morbid change in those parts takes place, by which their action is encreased, and they become *central points*, where greater commotion is locally formed, and by sympathetic action extended over the whole system.* "The physician," says Dr. Rush, "who considers every different affection of the different systems in the body, or every different affection of different parts of the same system, as distinct diseases, when they arise from one cause, resembles the Indian, or African savage, who considers, dew, frost, ice and snow, as distinct essences." Hence it would appear that fever is in essence the same, tho' it may be multifarious in its effects from the disorder it produces in different organs, and parts of the body. Though it may not be possible to explain altogether these effects, as they may arise from the noxious cause; yet if it shall appear that they proceed from the same cause, it will be strong presumptive evidence, that fever differs only in the mode of its operation on the different parts of the animal system, and that it is in essence the same.

All animal and vegetable substances, it is admitted, are composed of the same constituent, or elemental principles, and when deprived of life, are disposed, under such circumstances as tend to favor putrefaction, to dissolve into their original elements. But such are the qualities of these matters repelled from each other by that subtle element, called by the moderns caloric, unaltered by such natural processes, as are continually going forward in the grand *Laboratory* of the atmosphere, they become poisons to animal life, and when "applied to the bodies of men," remote cause of FEVER. That this is the case, is fatally proved, whenever such substances in a state of putrefaction, combined with minor causes, are within the sphere of their operation on the "bodies of men."

Though the mass of mankind give themselves little trouble in reasoning on causes and effects; yet there seems to be a general and decided opinion, that *fever* originates from something "floating in the atmosphere." Indeed this is so strikingly obvious in the neighbourhood of marshes, swamps, and putrefying stagnant waters, from their effects, that there can be only one sentiment on the occasion. But that these exhalations, which are called Miasmata, do not differ from those arising from other dead and putrifying animal and vegetable substances, is more than probable, in as much as these places are filled

* The author is fully sensible, that this part of his subject may appear to some rather obscure, and that much more might have been said in elucidation! Time, and the occasion must plead his excuse.

with dead and putrifying bodies of the same nature. From this source the inhabitants of low, flat countries, abounding in swamps and marshes, become year after year, a prey to fever, when concurring circumstances tend to favor putrid exhalations.

That these putrid exhalations, whether from animal or vegetable bodies, do not differ in their effects on the human body as the remote cause of fever, except so far as the one may evolve a greater quantity of noxious effluvia than the other, is highly probable, because they are essentially the same, being composed of the same elementary principles. Nevertheless, it must at the same time be obvious, that in as much as they differ in the cohesion of their particles, the one will put on the state of putrefaction, and emit noxious effluvia, while the other, under the same circumstances of heat and moisture, will remain sound, and shew no such disposition. Thus an accumulation of animal matter may become the remote cause of fever, while vegetable matter, under the same circumstances, may remain altogether harmless.

A striking example to this effect occurred in the course of my practice a few years ago. An eminent farmer, with a very large family of sixty or seventy persons, of all ages and sexes, caught several cart-loads of fish of a particular sort, and without much reflection as to the consequences deposited them in one of his fields for the purpose of manuring his lands. Unfortunately for the family, as soon as the fish began to putrify in the month of July, the wind blew from that quarter towards the house for some weeks, with little variation. The family began to sicken pretty generally about the middle of the following month, and I think I am correct when I state, that not one of this numerous family escaped *infection*. Then I saw what I have repeatedly seen before and since, the cause of fever operating on these different persons at the same time as cold in the production of dew, "ice, frost and snow." It is probable I also did not escape infection from this source. My first visit to this family was on the 19th of August, and on the same day of the month following I had a paroxysm of an intermitting fever, which was, no doubt, brought on at that period by the most sudden and great change in the air, I ever experienced, the preceding night, when I was obliged to stay from home, in a very light summer dress, which ought on that morning to have been adapted to the winter. I presume, on this occasion I was in a state of morbid excitability, and that the cold acted negatively as an exciting cause to fever, which commenced its attack in the usual form very soon after the preceding stimulus of heat was abstracted by the change in the air, and an exposure to it in the morning.

Now, though it could be well ascertained, that there was at this time the same quantity of corruptible matters in the swamps contiguous, the rest of the neighborhood was unusually healthy, because the concurring causes of heat and moisture were not combined to reduce them to a state of corruption, or putrefaction; and the neighboring families were not within the sphere of the action of this mass of putrefying animal matter, or the effluvia were not wafted towards them by the current of air.*

* That vegetable matter in a state of putrefactive fermentation may become injurious to health and the cause of various types of Fever, and to show at the same time the absolute necessity of guarding against its effects in that state, more

Every year we are more or less subject to epedemick fevers on the Eastern Shore of this State; however it frequently happens, that in some particular districts of the country, from partial falls of rain, heat and moisture are so unfortunately, though exactly combined to favour putrefaction of dead and corruptible matters in the swamps and marshes, that the whole mass of inhabitants are involved in the dreadful effects arising from the exhalations of these "noxious matters;" so that every "grade" of fever is brought into view from the *fabricula* to the nosological "typhus gravior," or if you please, the frightful denomination of "Yellow Fever;" while in other districts beyond the influence of these effluvia, from contrary circumstances existing, unusual health will prevail. The succeeding year perhaps the scene will be reversed. At the commencement of the epedemick, intermittents and remittents generally prevail uncombined, frequently alternating with each other; though not unfrequently various topical affections occur at the same time. But those who have been once infected with fever, notwithstanding they may apparently recover good health, as the season advances, become more subject to topical affections, such as "plurisies, peripneumonies, &c. and at the same time to relapses of intermittents, remittents, and "bilious affections," which frequently assume the topical form also, and of course become more formidable and destructive to life. At the same time in districts, where the noxious matters have not been volatilized into action by the putrifiactive

particularly when much accumulated, and its surface of some magnitude, the writer thinks it pertinent to the subject to relate a very striking instance, which occurred on his own farm in Talbot county; hoping at the same time it will afford a useful hint to farmers generally, who are disposed to profit by the errors or negligence of their neighbors.

In the year 1804, with a particular view to improvement, he (the writer) determined to let his manure, which was in his farm yard, covering the space of one third of an acre, lay there until the succeeding year, but not forgetting in the spring to enjoin his overseer to plough all that he could into the earth, which consisted of clay, and to be careful in covering the whole mass with earth of the same kind, having experienced the advantage of mixing clay with a light sandy soil. It so happened that the injunction was not attended to, or negligently put off, until this accumulated matter began to show its effects on six men, laborers on the farm, who were in the daily practice of necessarily spending some time in the farm yard. They all sickened about the same time with various types of fever, such as intermittents, remittent and dysenteric fever. At the same time there were at the farm house one old man and woman, together with two other women and six negro children, who, though only at the distance of fifty yards from the farm yard, continued perfectly healthy. Upon enquiry, as well as from his own partial observation, it was found that the wind had blown almost constantly from the house towards the farm yard for several weeks during the latter part of May and the first of June, the time when the sickness commenced. As soon as the cause exhibited its effects, the owner had his former direction instantly put into execution. The consequence was, that with very little aid from the Doctor, the fever vanished and the whole family continued remarkably healthy during the remaining part of the year. At that time, this was demonstrative proof to the writer, that animal and vegetable matter under certain circumstances will have exactly the same effects in the production of fever, when dissolving corruption volatilizes the elements of which they are mutually composed.

It was contemplated to have incorporated this case into the original work, but from the fear of making the delivery of the oration tedious, the writer pursued his original plan of compressing the whole as much as possible, and of adapting it to the occasion.

process, neither heat nor cold, nor any other cause, has been sufficient to excite fever in the human system; and I may venture to assert, from long observation, that the inhabitants will generally continue healthy until these noxious matters are again set afloat in the atmosphere by the powers of corruption.

Hence it would appear clearly and decidedly, that animal and vegetable bodies produce in essence the same noxious effluvia; and that under similar circumstances, they have the same effects on the human body in the production of fever.

Besides the effluvia arising from putrescent bodies, it is asserted, and until lately it has been a very generally received opinion, that there is another source of fever, the effluvia arising from diseased bodies having something specific in their nature, so as to produce a specific fever, differing characteristically from all other fevers! If the exhalations from a body infected with this specific fever are specifically different from the exhalations or effluvia arising from healthy bodies, and produce effects specifically different, when "applied to the bodies of men; then it must be admitted, there is a fever specifically different from all other fevers, not arising from these *"contagious effluvia."* But if it is found, after thorough investigation, that the exhalations from the healthy bodies have produced, and continue to produce the same fever, as the exhalations, or effluvia from diseased bodies, and that the exhalations from these diseased bodies are harmless in a free circulation of the air: then it is to be presumed, the fever produced by the one or the other is one, and the same. "Contagions," says Dr. Cullen, "have been supposed to be of great variety; and it is possible this may be the case; but that they are truly so, does not appear clearly from any thing we know at present." *Such diseases as are fully ascertained to be contagious, are of the same kind: and, as he further testifies, "for the most part affect persons but once in the course of their lives."*

"It is well known that the effluvia constantly arising from the living human body, if long retained in the same place without being diffused in the atmosphere, acquire a singular virulence; and in that state, being applied to the bodies of men, become the cause of fever," which fever, according to others as well as Dr. Cullen, "is highly contagious."

That the first part of this paragraph is correct, there can be no manner of doubt: but that the fever so produced is not directly from the effluvia of the bodies so confined, may be fully ascertained from this circumstance, that as soon as any one of those living human bodies is removed from "the place where the effluvia are retained," the exhalations from this body become perfectly innoxious. From hence it may be inferred, that the effluvia so confined are to be considered as any other mass of corruptible matter, which will undergo the process of putrefaction whenever they are placed in a situation to do so, and that they, like all other animal and vegetable matters, are altogether harmless with regard to the health of the living body, until they are reduced to the state of putrefaction.

In ward NO. 19, in the Brothers' house at Bethlehem, the soldiers were brought in from the camp labouring under various forms of disease, such as intermittents and remittents, with the long train of *noso-logical names*. The effluvia from their bodies in this ward, and I be-

lieve in all the wards of that large building, soon made dreadful havoc among them; at the same time infecting all those who attended them. Three of us, hospital mates, were fortunately put into a well ventilated room, in a separate house, where we were attended by nurses, and physicians, and though numbers of persons who had no occasion to go into the hospital, or were afraid to do so, used to set with us during the day, and the nurses slept in the room without, yet I have no recollection that a single individual took any thing like infection from us; or that the infection spread beyond the doors of the hospital.— We all recovered in the course of some weeks, and though I had the hospital fever, or nosologically the “typhus gravior,” when it first commenced, for which I took, according to common practice, large quantities of bark and wine; yet, strange to tell, *at that period of time*, just as I was supposed to be on the recovery, I was seized with a *pain in the side*, and very probably should have soon quit the stage of life if I had not been very judiciously treated by bleeding, and other common remedies usual in cases of “pleurisy.” I shall not pretend to make any comments on my own case, but shall trust you will make the proper application. As to the soldiers, though few went from the hospital alive, I believe they wanted for nothing so much as a freer circulation of air, less contaminated by the putrifying mass of exhalations from their own bodies, unfortunately confined, perhaps from imperious circumstances.

Instances without number might be brought forward to the same purpose, to prove, that though the “effluvia arising from the living human body acquire a singular virulence by being retained in the same place, and not diffused through the atmosphere;” yet that the effluvia from persons so infected, have no such effect when they are removed from the infected place. To turn over the records of medicine to this effect, would be a waste of time, and little short of insult to the understandings of this learned body. During the prevalence of the *malignant fever* in this city, as also in the most of our seaport towns, which was supposed to be “contagious,” under the formidable aspect or name of “yellow fever,” persons infected with it left the city, and died in families in the country, where they received all the offices of humanity; and yet in no one instance, well attested, was any thing like infection communicated. From hence also it may be inferred, that the effluvia from the human body, whether infected with fever, or not, are altogether harmless as a remote cause, until they have undergone a change by putrefactive decomposition; and that whenever a person is infected with fever, it becomes necessary to look for its cause from other sources than “human contagion,” such as animal or vegetable matters in a state of putrefaction. But in as much as they involve in that state the same noxious principles, it follows as a reasonable deduction, that the remote cause is the same; and as the same causes will, *ceteris paribus*, produce the same effects, the fever so produced must in essence be the same, notwithstanding, from the complicated nature of the animal economy, very different motions may be excited in the system. And whence all the alarm and terror about the contagiousness of “yellow fever,” if the fact is well ascertained, that the effluvia arising from the bodies of those infected with it, are not capable of communicating infection to others! If it is not

contagious, we are compelled to search for some other source of infection.

The most correct and impartial, if not the earliest account we have of fever of this denomination, may be found in Dr. Hillary on the diseases of Barbadoes. We there find it rearing its head in terrific form at "all seasons of the year;" and at the same time with the long train of nosological diseases; and as he informs us, it confined itself principally, though not altogether, to "strangers, especially to those who came from a colder or more temperate climate." But as he did not seem disposed to enter into an investigation of its cause, being altogether indifferent, whether it "proceeded from infectious miasmata," or "whether it arose from the great heat of the air and water, and the putrefaction of our fluids," agreeable to the prevailing notions of the day, I beg leave to transcribe a passage, which will tend to prove that it must have proceeded from the same source with all the other types of fever, which fell under his notice. "The dysentery, which was very frequent in the two last months, (Sept. and Oct. 1775,) upon the season being more warm and dry, became much less so, and towards the latter end of the month, it totally ceased. But the inflammatory diseases, especially pleurisies, peripneumonies, ophthalmies, and some quinsies still continued, and now were attended with more pain in the head, than usual. The hooping cough also still continued among children, and some few had the *putrid, bilious or yellow fever*." Many other similar passages to the same purpose might be extracted from this very ingenuous, sensible writer. Treating professedly of this fever, he asserts most positively, "that it has nothing of a contagious, or pestilential nature in it," being "indigenous to the West India islands, and the continent of America situated between or near to the tropics;" and wonders, what were "the motives which induced an *ingenious* author, (Dr. Warren) to think that this fever was first brought from Palestine to Marseilles, and from thence to Martinique, and so to Barbadoes," asserting that it could be proved by "several judicious practitioners" of medicine, that it had existed in the West Indies almost time *immemorial*. He then goes on to describe this "putrid, bilious, or yellow fever," through its different stages with all the most minute symptoms, which I think unnecessary here to recite: but was I to do so, I should be very much surprised to hear a *fractitioner of medicine* say on such an occasion, he had never seen a fever exactly similar, equally malignant, and equally entitled to the denomination of "yellow fever," such as Dr. Rush, and other practitioners have described in Philadelphia and elsewhere.

If the yellow fever existed in Barbadoes, and other West-India islands, fifty or sixty years ago, how comes it that it was never *imported* into Philadelphia, New-York, and other places, before the year 1793; seeing the commercial intercourse between those places, and the different West-India islands has been almost uninterrupted since the earliest settlements of the country? If it ever was *imported* into Philadelphia before that period, there is one thing certain, it never spread by "contagion."

Dr. Kuhn, I well recollect, informed his pupils, during the revolutionary war, that he had attended two or three cases of "yellow fever" some years before that period, which he supposed were *imported* into that city from the West-Indies; which he described very accurately,

and gave, according to custom, the *methodus medendi* very minutely, but confident I am, he never even intimated that these cases proved any way contagious, or that infection was communicated to a single individual, so that it is to be presumed the "contagion" died a natural death, perfectly harmless.

I might go further on the subject of "contagion," so far as it regards "yellow fever," and ask why it has never found its way into every country in Europe that has commercial intercourse with the West-Indies : for diseases really contagious, such as the small-pox, visit all countries indiscriminately, whether hot or cold. If they have a preference for one country more than another, I believe it is for cold ones !

If the "yellow fever proceeds from infectious miasmata, or if it arises from the great heat of the air," according to Dr. Hillary, we have no reason to go beyond the limits of our seaport towns, to find the source of the one, or the power of the other ! ~~we~~ view the sources of putrid effluvia, or "infectious miasmata, in those places, according to Dr. Rush, and other writers on the subject ; and see how the case stands ! Contrast the degrees of heat in Barbadoes, according to the observations of Dr. Hillary, and the same in Philadelphia, agreeably to Dr. Rush, and how are they ?

In Barbadoes, July 1753, the lowest the Thermometer was at in the morning was at 78, and the highest at 80. The lowest it was at noon was 82, and the highest at noon was 86."

In Philadelphia, "July 1793," the lowest at "6" in the mornings was "63," and the highest "78." The lowest at "3" in the afternoon was "80," and the highest degree in the Thermometer at the same hour was "91"

In Barbadoes, August 1753, "the lowest the Thermometer was in the mornings was at 79, and the highest that ever it was in the morning was at 82. The lowest it was at noon, was at 83, and the highest at noon was 86."

In Philadelphia, "August 1793," the lowest it was at "6" in the morning, was "59," and the highest at the same hour was at "77." The lowest at "3" in the afternoon was at "66," and the highest at the same hour was at "90"

From thence it appears strikingly obvious, that whether "yellow fever proceeds from infectious miasmata, or arises from the great heat of the air," Philadelphia must have laboured under much greater inconveniencies as to heat ; and if well attested facts can be relied on, the air must have been much more loaded with "infectious miasmata," and as effects will always be proportioned to their causes, we have well founded reason for supposing the "yellow fever" would much more likely be generated in Philadelphia, than in Barbadoes.

But Barbadoes did not want for an "ingenious author," nor Philadelphia for a host of such "authors, or ingenious" practitioners of medicine to make the grand discovery, that "yellow fever" was not indigenous to that island, nor that ill-fated city, but was a fever *suigeneris*, *imhorted* from a foreign country, and differing specifically from every other fever, which had ever made its appearance in the places before, both as to its cause and origin. Why mankind should, in all ages, and in all countries, shew such a propensity to "refer the origin of evils from themselves to others," is truly astonishing : but alas ! says Dr.

Rush, "this principle discovered itself in Paradise, and it is every where an essential feature in the character of man."

It is probable, had not this propensity continued so predominant in the mind of man under the influence of "motives," which are not to be accounted for, we should not have had "ingenious authors" every where starting up in this our day, deriving fever from sources that never had an existence: neither should we have had the mortification of seeing talents prostituted by an indulgence in this propensity; nor the ingenuity of a Dr. Chisholm* displayed in discovering and proving from false facts, that the fever which made such dreadful havoc at St. George, in the island of Grenada, in the year 1793, was actually *imported* from "Boullam, or Bulema, a desert island on the coast of Guinea:" from whence it seems we have got a new addition to our nosology under the denomination of the "Boullam fever!" neither would our astonishment have been excited by hearing in bold assertion, from this very "ingenious author," in conjunction with our *importers*, that it was transported from the delightful town of St. George, in the island of Grenada, to Philadelphia, in the same year (1793;) *the time when all the world knows the "yellow fever" prevailed there with destructive rage*; neither would our astonishment have been continued, by hearing from him, that it was not the "yellow fever," but a "malignant pestilential fever," specifically different from that fever, and every other that had ever made its appearance in Grenada before: neither would our amazement have been raised to a yet higher pitch by hearing him, after describing his "malignant pestilential fever" in almost as many words as Dr. Hillary describes the "yellow fever," making allowance for the cant of the day, declare in his postscript, [still however rigidly adhering to his original doctrine,] "that it is a matter of no great importance whether the disease described by Dr. Rush under the name of the *Bilious Remitting Yellow Fever*, was produced in the manner the malignant pestilential fever was in Grenada: it is sufficient," says he, "to know that the *diseases were exactly the same*; and that a similar treatment proved successful in both."† Here we see, after making some very nice distinction between his "malignant pestilential fever," where it is impossible to perceive any difference from Dr. Hillary's and Dr. Rush's "yellow fever," he comes forward with his postscript, and settles the difference by acknowledging, "that the diseases were exactly the same," still, however, adhering‡ to the doctrine of *importation*; while Mr. Paiba, the gentleman that he himself acknowledges ought to know more about the business than any body else, declares the whole affair about the "contagion" originating from the ship Hankey was an *ingenious fabrication*. Thus we find the origin of the "Boullam fever," or in other words the "yellow fever," was little more than the baseless fabrick of this very "ingenious author's" own ingenuity, who appears very much disposed to deceive himself, as well as every body else, by taking the usual short method of "referring the origin" of fe-

* See apology in the following note.

† If the author should be considered as having treated this very respectable writer with unfeeling severity, he begs that it may be ascribed to this unguarded, though glaring acknowledgement of the identity of the "Yellow Fever," and his *malignant pestilential fever*, which he, (the author) views as a very striking example to prove the "unity of fever"

‡ See Dr. Chisholm's correspondence, &c. in the Medical Repository.

ver from the delightful town of St. George to some other place. Had not the ship Hankey arrived at this critical juncture, when this "malignant pestilential fever" commenced its fury, some might suppose this "ingenious author" would have had his ingenuity put to a severe torture to derive and prove its foreign origin or extraction. Not so! like all those whose imaginations are filled with "contagion," we should have found him equally ingenious in discovering the "*fomites*" of "contagion" some where else, on board some other unfortunate ship arriving in good time to answer his purpose: and it is not improbable, if the notion of "contagion" in Philadelphia had spread a little sooner, we should have found him displaying his ingenuity by *importing* his "malignant pestilential fever" from Philadelphia, the very place he had transported his "Boullam fever" to.

It would be a matter of some curiosity, and perhaps afford some instruction, if not entertainment, to trace the visionary route of this "malignant pestilential fever," at first, very nicely and accurately distinguished from the "yellow fever," and then becoming "exactly the same," as a very remarkable specimen of all other *contagious importation*.

It was generated, says Dr. Chisholm! and so say all! It was generated at "Boullam, or Bulema, a desert island on the coast of Guinea," where, no doubt, it acquired a peculiar ferocity from the savage wild beasts.

"Wolves gave thee suck, savage tygers fed!"

When, on board the ship Hankey, freighted with colonists for Sierra Leona, it, while yet in a state of infancy, made unheard of destruction! Then, by this ship—(Here Mr. Paiba puts a negative upon the whole affair of *importation*, as an ingenious fabrication, but no matter) By some invisible means it gets to St. George, in the island of Grenada, where this "ingenious author" tells us, and no doubt it was so, it *frightened every body half to death, and actually destroyed "different proportions of different classes or descriptions" of poor mortals!* From St. George, in the island of Grenada, he asserts positively, and some have lifted up their voices or wielded their pens to prove the truth of it or something to the same purpose, it is imported into "Philadelphia" somehow, though no creature can tell *how!* where in spite of "Dr. Rush's acknowledged talents," and others, it scares away all the *importing doctors*, and three-fourths of the good citizens from their comfortable dwellings, and actually sends one-third, or one-fourth of the residue to their long homes!!

Now taking another incomprehensible flight, it spreads terror, dismay, and death through every seaport town in the U. S. and by and by, as it were by a *contagious opposition*, it is conjured up in every town, village and county, in the wonderful form of domestic origin!*

Having slain its thousands, and tens of thousands, in this country, this extraordinary spirit of "contagion" now most unexpectedly, wafts itself to the Havanna, in the island of Cuba, where it stirs up the "*atrabilis*," together with several other extraordinary humours, which had lain dormant for—I do not know how long, according to seignior Dr. Oyarvide of that city, who roundly asserts, and *proves to his own satis*,

* See Medical Repository passim

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faction, that the "yellow fever" had been a total stranger in that place, until imported there by the "Anglo-Americans," meaning the good people of these States! This is strange, passing strange indeed! but it must be so, when asserted by a doctor so *sage* and *scientific* as Seignior Dr. Oyarvide,† as well as some others. Here authors or physicians of common ingenuity or genius, might suppose, *this restless demon of pestilence* would have stayed its fury, and stopped its destroying career, but not so! We are informed by learned physicians, and other descriptions of great men, it made a most wonderful voyage, however incomprehensible it may appear, to old Spain, in some of our unfortunate ships, landed at Cadiz, and there commenced its old trade of "havoc," far, very far surpassing that of the "dogs of war let loose;" where it is well known, his Catholic Majesty, from a principle of extreme humanity, and by the advice of "ingenious" physicians, was determined to arrest its progress by drawing lines of circumvallation around that devoted city, and guarding them by troops of armed men, both horse, and foot; but alas! to little purpose, for it made its escape unperceived, and beyond all human comprehension; and carried throughout a great part of this humane prince's dominions, dismay and death! where we must leave learned Doctors, whether French or Spanish, to settle the knotty, contested point of *foreign extraction or domestic origin*, but sympathizing at the same time with our countrymen for the many evils, as well as vexatious inconveniencies, which are heaped upon them by the pernicious, and worse than barbarian custom of *quarantine*, which, though conceived in fear, and established through ignorance in the days of superstition and folly; has been perpetuated to, and supported even in this our enlightened day! We will foster a hope, that sounder policy will govern the ruling powers of the earth, when causes and their effects are better understood. But away with these flights of fancy; these farces of *contagious ingenuity*; these stumbling blocks to free, enlightened, unbiased investigation, and say whether

—"A nauseous mass

"Of all obscene, corrupt, offensive things,

"Relapsing into fright'ning elements,"

mighty have not in this city, risen in judgment against such strange, unaccountable doctrine! View the mass of animal and vegetable matter in a state of dissolving, "*volatile corruption*"; and say, whether woeful experience does not teach us that the elements of which they are composed and modified in various forms, and from which we also incomprehensibly derive our being by the same Almighty Hand, do not become poisons to life, and when "applied to the bodies of men," in a way equally incomprehensible, do not prove themselves sufficiently adequate to the production of fever in the human system of economy!!

Therefore, when we see fever under various types or forms, originating from the same common source at the same time, and in the same place, apparently under the same circumstances; though we may not be fully able from human imbecility, or the poverty of language, to explain why it is so; or when we see in the same family intermittents combined with various topical affections, alternating with each other, I must presume, it is a fair, reasonable, a philosophical

† See Medical Repository.

induction, that "there is but one fever, however different the remote cause" may appear to be, when originating from matters differently modified before their putrid dissolution takes place; and whether this is aided "by heat or cold succeeding to each other," whether by "intemperance, or a fright," still, "I repeat it" in the language of our illustrious Dr. Rush, "there is but one fever," and that the physician who does not, like him, "consider the morbid affections of every part of the body [however diversified they may be in their form or degrees] as derived from one cause," is very far from "resembling the philosopher, who considers dew, ice, frost, and snow as different modifications of water, and as derived simply from the absence of heat."

If the doctrine of the remote cause of fever is well founded, little need be said on the subject of its prevention; the means will be suggested to every reflecting unbiased mind.

By an *Almighty, Great First Cause*, the foundations of the earth were laid, and the order of his Providence established, by which all things live, and move, and have their being. Plants and animals are created; "they live, and are nourished, and quickly hasten to decay: they pass back to their elementary state, and are again employed as the constituent parts of other vegetables, and other animals. Such, with respect to the material part of the creation, is the amazing circle of *life and death*! a circle in which nature keeps her steady rounds, and moves agreeably to laws established by the *Almighty*."

Were it possible, while these bodies are passing through dissolving corruption, and their elements are becoming prepared for new creation of animals, or vegetables, to prevent them from exhaling into the atmosphere in destructive form, mankind might become strangers to fever!!

But alas! when will such a system of things take place among men, that nothing shall be permitted to be exposed to generate the cause of FEVER, the present scourge of mankind; and all things corruptible shall be committed to the laboratory of the earth in such a state of preparation as to undergo the necessary decomposition for a new creation of vegetables, which shall pass into animals for their nourishment, and these again be returned to the earth; and thus keep up the constant circle of "*life and death*," agreeably to the laws established by the *Everlasting Creator* of all things?

In the country boundless difficulties lie before us! Our marshes, swamps, stagnant waters and fens, which year after year prove themselves the principal source of disease and premature death, are as yet in a state little more than that of nature; and it is a lamentable reflection, that years incalculable must revolve around, ere this rude face of things will be changed: when these stagnant waters shall be drained; these marshes converted into highly improved meadows; our swamps transformed into arable fields, and the leaves of the forests applied to more useful purposes than those of evaporating into the air, or remaining to putrify, and fill the atmosphere with putrid exhalations.

In our cities, when the absurd, pernicious custom of *imputing the origin of evils to other countries* shall be altogether done away; and cleanliness among all ranks, classes and descriptions of persons shall be reduced to systematic habits, such as at this time scarcely characterize one nation, we may look forward with pleasing expectation, that though fever may not be banished from the list of diseases; when it does

come, it will not appear in that awful, frightful shape which has marked it for some years past.

Children must be taught ; it must enter into the first rudiments of their education, that uncleanness of every kind, whether applied to morals, or corruptible things, is the origin of all evil ; and particularly so far as regards disease, that all things in passing from death to corruption may become destructive to health, and life. Under such impressions men might be united in the *bonds of love and self preservation* ; the study of nature would be the study of the general good ; and the meanest capacity might be scientifically and usefully employed.

Under a system of police founded on these principles, the "*amazing circle of life and death*," would be continued to the benefit and multiplication, and not to the destruction of the human species : the *elements of "life and death"* would then pass on ~~off~~ that regular, successive circular channel, which was wonderfully ordained by an All-wise, All-merciful and Omnipotent Creator !

—Here all language must fail—

"Come then, expressive silence, muse his praise !"

FINIS.

ERRATA.

Page 1, line 14, between "and," and "said," insert *much*.

- 5 18, instead of "had," read *might have*.
- 8 34, of "birth," read *brink*.
- 11 24, of "become" read *becomes*.
- 11 38, of "effect," read *effects*.
- 12 22, of "afflicted, and consi^lered," read *supposed*
to take place, and perhaps considered. Omit
"the" before pneumatic.

12, in quotation from Dr. Darwin, instead of "bubb," read *bulb*.

16, line 29, instead of "exceptive," read *eruptive*.

16 43, of "inhalations" read *exhalations*.

17 43, of "involve" read *evolve*.

18 26, of "contagion" read *contagious*.

18 29, of "ingenuous" read *ingenious*.

19 16, of "We view" read *Review*.

19 41, of "miasma" read *miasmata*.

19 48, of "suigeneris" read *sui generis*.

19 50, of "the" read *these*.

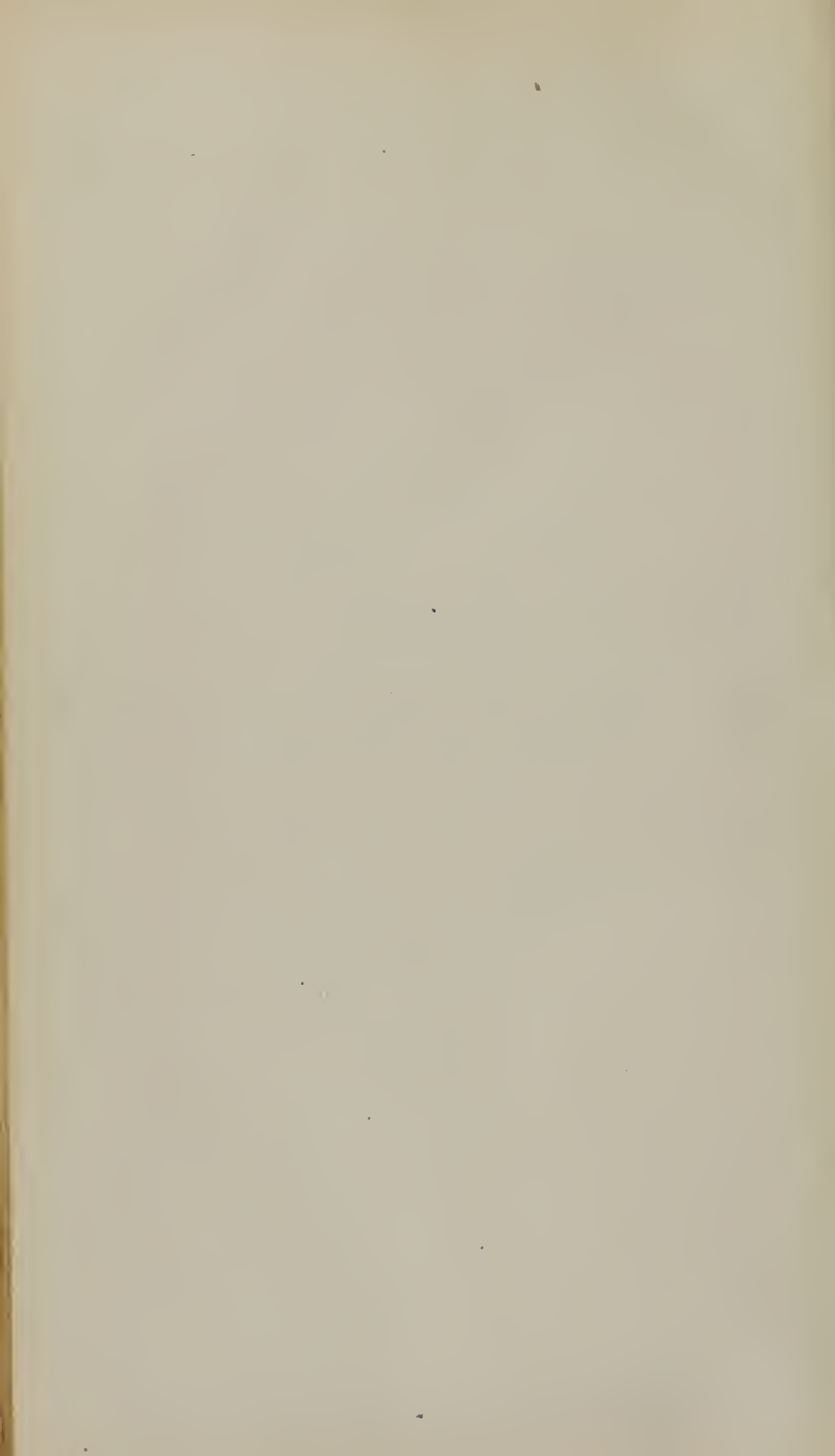
20 34, of "distinction" read *distinctions*.

21 18, of "importation" read *importations*.

22 37, between "the" and "mass" read *mighty*.

23 30, after generat^e," omit *in*.

24 14, instead of "with" read *in*.



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